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ABSTRACT

Reviewed is research in early childhood and special education said to have potential relevance for the development of Head Start services for handicapped children. Discussed is research over the past 15 years in two main areas: preschool intervention programs, and critical issues affecting the development of handicapped children and their families. Conclusions are summarized such as that recent preschool and intervention studies have attempted to place greater emphasis on a more total family and community involvement, and that most preschool intervention programs have excluded multiply handicapped and demonstrably disabled children. Implications of the research are seen to include the need for Head Start programs to provide services for handicapped children and their families at much earlier ages, and the need for development of a realistic, manageable pedagogy for integrated preschool programs. (LS)

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A REVIEW OF RESEARCH: IMPLICATIONS FOR THE HEAD START HANDICAPPED EFFORT

Prepared by:

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Submitted to:

The Office of Child Development

U.S. Department of H.E.W.

October, 1974

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A REVIEW OF RESEARCH: IMPLICATIONS FOR THE HEAD START HANDICAPPED EFFORT

This report has the primary purpose of reviewing pertinent research in early childhood and special education that have potential relevance for the development of Head Start services for handicapped children. The report will discuss current research over the past 15 years in two main areas: (a) preschool intervention programs, and (b) critical issues affecting the development of handicapped children and their families. Finally, we will consider some implications of these data for the Head Start handicapped effort.

Preschool Intervention Programs

While the notion of preschool education is by no means new or revolutionary, the period of the 1960's and 1970's has seen a renaissance of interest in early childhood intervention which has been fortified with several important developments. These include Congressional enactment of the Handicapped Children's Early Education Assistance Act in 1968 (Martin, 1971), the advent of Project Head Start and 1972 Economic Opportunity Act Amendments mandating nation-wide integration of handicapped children into Head Start, national development of the Model Centers Program supported by the Bureau of Education for the Handicapped (Olshin, 1971), and the pursuit of numerous research projects and establishment of parent-child and day care centers. In essence, these developments have resulted in a dramatic growth of preschool educational programs under an assumption that cognitive, social, and emotional changes can be significantly enhanced and liabilities for school failure prevented in very young children.

The specific nature of these early childhood interventions vary along several dimensions. They include differences in the basic orientation and scope

of programs; ages of children involved; the degree and type of parent involvement, duration, procedures for implementation; and methodologies for studying change in children. For example, among the preschool programs with children between three and five years of age, there have been those that have focused on a cognitively-oriented, direct instruction approach (Bereiter & Englemann, 1966; Karnes, Teska, & Hodgins, 1969; Weikart, Rogers, Adcock, & McClelland, 1971); the application of Montessori principles to educating the disadvantaged (Kohlberg, 1969; Orem, 1969); Diagnostic Teaching (Hodges, McCandless, Spicker, & Craig, 1971); Precision Teaching and Contingency Management (Baer & Wolf, 1968; Bricker & Bricker, 1971, 1972; Gray & Klaus, 1968; Shearer & Shearer, 1972); a Responsive Environments approach (Moore & Anderson, 1968); and combined or eclectic approaches to cognitive, social, and emotional development (Blatt & Garfunkel, 1969). Piagetian theory has had a marked influence on the orientation of a number of infant programs (Gordan, 1971; Honig, 1970; Sigel, 1971; Weikart, Lambie et al., 1969)--although these, too, have been quite diverse in terms of their major emphases on different cognitive and social-emotional variables, conceptions

for enhancing development through home learning or day care centers, and plans for parent involvement.

Data from a number of these studies have generally indicated that children have changed in positive directions. Findings also have revealed, however, that such differences are not always sustained. For example, in 1961 Gray and Klaus initiated an Early Training Project with 61 preschool children from low-income Black families. The children were randomized into three groups. The first group attended a 10-week intervention program for three summers and was visited by a specially trained home teacher when the preschool was not in session. The second had a similar treatment, but the children became involved a year later. In addition, there were two control groups, one drawn from the local city where the experimental children lived and a second group of 27 children who resided in a similar city 65 miles distant. Gray and Klaus (1970) generally described their intervention program as centering on two broad classes of variables: attitudes and aptitudes relating to achievement. Work with parents was largely pursued through the weekly visits of the home teacher.

At the conclusion of the seventh year of the training project when the children were completing the fourth grade, the study revealed the following results. The experimental group remained significantly superior to the control group on tests of general intelligence. On measures of language and two tests of school achievement, trends still remained in favor of the experimental group; however, these differences were no longer significant by the end of the fourth grade. Further, there was a decline across all groups. In accordance with this last finding, the authors concluded,

> . . . It is clear from our data, with a parallel decline across the four groups in the second through fourth grades, that an intervention program before school entrance, such as ours cannot carry the entire burden of offsetting progressive retardation. By some standards the Early Training Project might be seen as one of relatively massive intervention. And yet a colleague of ours has estimated the maximum amount of time that the children in the project could have spent with the Early Training Project staff was approximately 600 hours, less than 2 percent of their waking hours from birth to 6 years. Perhaps the remarkable thing is that the effect lasted as well and as long as it did. In a similar vein, we have estimated the amount of these contacts in the home at a maximum of 110 hours, or about 0.3 percent of the waking hours of the children from birth to 6 years. Surely it would be foolish not to realize that, without massive change in the life situation of the child, home circumstances will continue to have their adversive effect upon the child's performance (p. 923).

The Ypsilanti Perry Preschool Project, initiated in the fall of 1962, represents another long-term effort "to assist educationally disadvantaged Negro children in developing the concepts and abilities necessary for academic success in the public school" (Weikart, Rogers, Adcock, & McClelland, 1970, p. 1). The duration of the project was five years. Children, three and four years of age at the beginning of the project, participated in an intervention program which changed somewhat in focus throughout the study. As initially conceived, the program emphasized a direct teaching, verbal bombardment approach, similar to that advocated by Bereiter and Englemann (1966). Later it became more heavily oriented toward Piagetian theory. Children attended the program five days a week for three hours a day. By 1967, four groups or "waves" each had participated two years in the intervention program. On the basis of a variety of general intelligence, language, and achievement measures, these were the results. There was an overall pattern of increased IQ scores for all groups. Second, there was a tendency toward stability of IQ scores for the control group prior to their entrance into school and an immediate gain after one year of attendance. Third, two experimental groups revealed a

substantial increase, as much as 20 points, in IQ after one year of preschool. These increases declined after a year in preschool or regular kindergarten so that differences were no longer significant. The third "wave" maintained superiority through the second year of the preschool but then declined.

In 1969, Blatt and Garfunkel launched a preschool intervention study with disadvantaged children in the Greater Boston area. A small pilot sample of 17 children was initially secured from the cities of Waltham and Newton, Massachusetts. This sample was randomized into experimental and non-experimental groups. The pilot served a major purpose of providing the project staff with an opportunity to study selection, testing, and curricula procedures, and to train teachers for the more formal phase of the study.

Subsequently, a larger sample of 60 children, varying in age between two and one-half and four years, was included in the project. These children met the final criteria of "residing in a highly deprived area characterized by high delinquency rates, a considerable proportion of school dropouts and school failure, low occupational status of parents, and run-down homes"

(Blatt & Garfunkel, 1969, pp. 40-41). Further, the children revealed no evidence of central nervous system pathology. The larger sample also was randomized into an experimental group that was divided into two treatment groups and a non-experimental group of children who attended local neighborhood preschool programs. One of the experimental groups received the preschool intervention and a specially designed teaching method called the "Responsive Environment" developed by Omar K. Moore; the other received only the preschool intervention. On the basis of a wide variety of measures tapping cognitive, personality, social, and home and family variables, the authors concluded at the end of the study that major differences were not evident between experimental and non-experimental groups. Moreover, they raised an issue that has been considered by several other researchers involved in preschool intervention studies, i.e.,

> Inferences from our data revealed that disadvantaged children are influenced more by the home setting than by the external manipulation of their school environment. In light of what we believe to have been the face validity of an enriched preschool program, the inability of this program to produce measurable differences between experimental and non-experimental children causes us to suggest that it is not enough to provide preschool disadvantaged children with an enriched educational opportunity. Families need a great deal of help toward becoming

> stronger and better integrated units to provide more powerful stimulants and models for intellectual attainment. To the degree this growth is necessary for families, it is equally important for the community to change, including its complex array of systems and subsystems, styles, and character (pp. 119-120).

Finally, in 1964 Hodges, McCandless, Spicker, and Craig (1971) began a three-year experimental preschool project with five-year old "psycho-socially deprived, mentally retarded children." Approximately 15 children each were placed in four groups. The experimental preschool class, located in Bloomington, received a Diagnostic Teaching program. A kindergarten control class, located 50 miles from Bloomington, received a regular kindergarten curriculum. A regular control group, located in Bloomington, remained at home and received only the pretesting and posttesting. The study involved children in three successive kindergarten programs and followed them through the completion of the third grade. Among all of the groups, children enrolled in the diagnostically-based preschool programs showed the most gains. The children enrolled in the regular kindergartens were, in turn, superior to the control groups. The two groups of intervention children maintained their gains through second grade. However, by the end of the second

grade differences between experimental and control children were no longer significant. Follow-up of children through the third year of school revealed that, in contrast to the control group where placement in special class was frequent, the experimental group tended to remain in regular classes (Hodges, McCandless, Spicker, & Craig, 1971).

Results of studies such as those described above, as well as similar findings with Head Start programs (Spicker, 1971), have raised questions about several dimensions of preschool intervention programs. For example, there is some evidence among these studies that gains, although rarely sustained, were greater with earlier intervention (Heber, 1971; Spicker, 1971). This tendency was evident in the Ypsilanti and Early Training Projects. Second, the duration of intervention seems to be an important variable (Spicker, 1971). As Heber (1971) has suggested,

> It seems, therefore, based on essentially limited preliminary data, that intervention programs can make a difference when carefully defined, implemented, and assessed. It must be remembered that massive deprivation demands massive measures, and it demands these over time. The environment which created a deficit continues to take its toll after intervention ceases, unless the environment is improved. For the next few decades early intervention probably is the

> necessary condition for improving the educability of disadvantaged children, but it is certainly not a sufficient condition. The school, community and home must work to sustain early gains, i.e., if children are not to fall behind as they move through their school years (p. 36).

Heber's comment raises a third point about the nature of home involvement in the intervention process. With few exceptions, these preschool studies have alluded to the importance of this dimension. In fact, Spicker (1971) has raised the possibility that "the indirect positive effects of home and preschool interventions on neighborhood children and younger siblings may be even greater than the direct effects of the interventions on the children receiving them" (p. 637). Some support for this finding may be drawn from an interesting phenomenon revealed in the Early Training Project, which Gray and Klaus (1970) have called "vertical diffusion." The authors found that there was a spread of effect from older to younger siblings and that younger siblings closest in age to the experimental group children scored significantly higher on the Stanford-Binet than younger siblings from the control groups. In addition, Spicker (1971) noted that there is a need for studying other related variables such as the appropriateness of curricula, teacher competency, and teacher attitudes

toward children. The last two factors probably are inseparable from the quality of intervention programs and curriculum development.

These factors, among others, have largely affected the nature of research efforts in early childhood over the past five years. There has been a proliferation of longitudinal infant education studies that are now following children through at least the early years of elementary school. Parents and other family members are more directly involved in the intervention process, and in a number of studies work with children takes place in the natural setting of the home. There appears to be an increasing concern about focusing on emotional and social variables. Finally, there is a growing awareness that in order to effect sustained changes in children, intervention programs need to be couched in a system of supportive relationships within the community. To varying degrees, these factors are reflected in the four infant projects described below.

The Ypsilanti-Carnegie Infant Education Project began in January of 1968. The project had the major purpose of assessing "the effectiveness of systematic intervention by public school teachers, starting at the

period of infancy, in preventing the intellectual deficits commonly found in children from disadvantaged populations" (Weikart, Lambie et al., 1969, p. 1). Infants were randomized into four groups: an experimental group, a contrast group, and two control groups. The children were phased into the project at three, seven, and eleven months. Final results of changes in these groups were not reported.

Like Blatt and Garfunkel (1969), Weikart and his colleagues conducted a pilot study in order to organize an instructional program, refine data collection, and orient the project staff. The pilot study ran for the first six months of the project. The intervention program was largely based on Piaget's stages of sensorimotor development but also was conceived as including the entire process of home activities. According to the authors, their involvement of mothers was a key concern. Results of the pilot study suggested a "consistent trend in the pre- to post-test progress." By the end of the six-month period, five of the seven children included in the sample were performing at a level equal to or above that which might be expected for their chronological age. Moreover, it was reported that following the intervention, infant

performances on the mental subtest of the Bayley Scales were significantly above the level of chronological age expectancy. On the motor subtest, the sample was performing essentially at their chronological age level.

Since 1967, Gordan and several colleagues at the University of Florida have been involved in a longitudinal home intervention study with very young disadvantaged children. The first sample included 158 families and children; in 1968, 100 new families were added to the sample. Children were randomized into eight treatment groups which were conceived to test the "effects of amount and sequence of experience on changes in performance of mothers" (Gordon, 1973, p. 101). These treatment groups were included in the plan:

(a) Experimental, from three months to three years of age

(b) Experimental, baby from three months to two years; control, third year

(c) Control, baby's first year; experimental, second and third years

(d) Experimental, baby from three months to one year; control, second year; experimental again in baby's third year

(e) Experimental, three months to one year; control, second and third years

(f) Experimental, baby's second year of life; control, first and third years

(g) Experimental, second and third years only

(h) Control (Gordan, 1973, p. 100).

The intervention program consisted of a combined home visit and home learning center approach. Children in the project spent four hours a week in two separate sessions at home or "backyard" centers, which were located at homes of mothers in the project. At a maximum, 11 centers were operated by the project staff. The home centers were directed by non-professionals from a disadvantaged population. The second component of the intervention was the parent education program where mothers were visited once a week and taught activities to be used at home.

Results of the study to date have disclosed the following findings:

(a) Data have led to rejection of the hypothesis that earlier experience was superior to later involvement within the first three years (Gordan, 1973, p. 110).

(b) The longer that children attended the program, the better their performance with major differences occurring between two or three years and one year or both.

(c) For boys, motivation appeared to be related to task-oriented behavior at ages two and three. For girls, motivation was related to mental test performance at ages two and three. For boys, task-oriented behavior at two was predictive of test performance and behavior at three. For girls, it was not predictive of later performance and behavior.

(d) A fourth set of hypotheses was related to the effect of the program on mothers. Data from interviews seemed to indicate that experimental mothers were more involved in their child's learning and viewed them in more positive ways than control mothers. Data yet remain to be collected with children at ages four and five years.

To this point, the studies described above have involved only disadvantaged preschool children or infants. The Portage Project, under the direction of Shearer and Shearer (1972), had a different focus. The project served 75 multiply handicapped children from birth to six years who resided in a south-central rural area of Wisconsin.

Children were described as having behavioral problems or as being mentally retarded, emotionally disturbed, physically handicapped, visually impaired, hearing impaired, culturally deprived, or handicapped in the area of speech or language. The home intervention program, implemented by four special education teachers and three paraprofessionals, was based on a Precision Teaching model. Home teachers visited children and their families one day per week for one to two hours. These sessions continued for nine and one-half months. Parents assumed major responsibility for carrying out weekly educational "prescriptions" which were demonstrated during the home visits.

Major results of the study indicated that:

(a) On the basis of the Cattell Infant Scales and the Stanford-Binet, some children gained as much as 13 months in an eight-month period.

(b) Children were successful on approximately 91 percent of the total (an average of 128) prescriptions written for each child.

(c) When compared with a randomly selected group of children attending local programs for culturally and economically disadvantaged preschool children, youngsters from the Portage Project reportedly made greater

> gains on measures of general intelligence, language, academic development and socialization. Again, the question of the degree to which reported gains are sustained two, three, or four years after the termination of the intervention is not answered. Findings that children changed in response to the program correlate with data from other preschool interventions. However, in contrast with the authors' suggestions, gains may have been more related to the involvement of children in the program than to any particular intervention methodology.

This project is still in progress.

Finally, in December 1972 Heber and his colleagues at the Regional Rehabilitation Research and Training Center in Mental Retardation at the University of Wisconsin made public a progress report on a comprehensive longitudinal study of high-risk children. The seven-year project is still in progress. The sample includes 40 children who entered the project at three months of age. Small groups of three or four children were assigned to control and experimental conditions. When an infant initially entered the project, he was assigned a teacher who remained with him until he reached 12 to 15 months of age. At that time,

he was gradually placed with other teachers and children. Upon initial contact with the family, the teacher worked with the infant in the home setting until parents felt comfortable enough to allow the baby to be taken to a university center. Heber (1971) has described the educational program as "having a cognitive-language orientation implemented through a structured environment by prescriptive teaching techniques" (p. 57). The intervention also included a rehabilitation program for mothers which had two purposes: to prepare mothers for employment opportunities and to improve their homemaking and child-rearing skills. The program consisted of adult education classes to teach mothers basic academic skills and an occupational training program to teach specific vocational skills. In addition, the classes dealt with community-oriented social studies, home economics, interpersonal relations, and child care. The vocational training phase of the rehabilitation program was carried out in two community-based nursing homes.

The study is an extremely comprehensive one in terms of evaluation. Assessment includes measures of physical maturation; language development; standardized and experimental measures of infant adaptive behavior;

standardized tests of general intelligence; experimental tasks of sorting, discrimination learning, problem-solving, concept oddity, auditory discrimination, verbal concept appreciation, and object recognition; and finally, measures of motivation and social behavior. In the first 24 months, infants were largely evaluated on the basis of general developmental scales and measures of vocalization and language. They were later evaluated largely on the basis of direct measures of learning and performance (Heber, 1971, p. 84).

The study, now in its seventh year, has yielded the following results:

(a) Approximately 30 point difference in mean IQ performance between the experimental and control groups was maintained at 36, 48, and 66 months of age of children (Heber, Garber, Harrington, & Hoffman, 1972, p. 105).

(b) On both learning and language measures, there was more variability than on IQ performance. However, there was an obvious consistency across all performance measures which seemed to suggest a stable, continued differential development in favor of the experimental children (p. 108).

(c) Since year three, the experimental children have maintained at least a 12-month gain in intellectual performance over the control children. At 36 months the experimental children were 10 months in advance of growth norms; the control children were two months below. From 36 to 66 months, the experimental children ranged from 10 to 14 months above the "average"; the controls, however, continued to decline at each age point from 24 to 66 months.

The authors (Heber, Garber, Harrington, & Hoffman, 1972) concluded that,

> The present data in all areas of performance measured, clearly indicates a marked superiority for the experimental group. However, interpretations of, and generalizations based upon present data must be tempered by recognition of the test sophistication of previous enrichment studies where treatment gains (particularly in tested IQs) have not tended to be maintained over long post-treatment periods. As stated in the initial design description, independent, comprehensive behavioral evaluations conducted at age seven (a year beyond the termination of intervention) were seen as a reasonable basis for evaluation of effects of intervention. This is not to suggest that subsequent changes in relative performance levels would not occur beyond that level but, rather, it would provide a somewhat solid basis for evaluation of the treatment effects. Any ultimate evaluation, of course, must be based on the performance of these children as they move through the educational system (p. 108).

Critical Issues Affecting Development of Handicapped Children and Their Families

For the most part, the studies reviewed above have been concerned with program development for typical or mildly delayed children. There is, however, a substantial body of literature that has been devoted to the study of families with demonstrably disabled children. It is to this area of study that we turn now. In particular, we will concern ourselves with three areas of investigation, i.e., reaction of families to the discovery of mental retardation and other developmental disabilities, the development of family strategies for coping with the problem, and decisions made by families who are unable to cope with the problem.

The frustration and confusion which parents feel when they first discover that their children may be handicapped are well documented by several studies (Carver & Carver, 1972; Ehlers, 1966; Hunter, Schucman, & Friedlander, 1972; Jacobs, 1969). There are feelings of "shocked disbelief" and loneliness with few alternatives. Jacobs (1969) has reported that, on the basis of interviews in one study, some parents considered possibilities of "infanticide." Other parents considered institutionalization

as a singular option. This latter finding was corroborated by Olshansky and Schonfield (1964) in a study where they discovered that 26 percent of their sample of children under seven years of age had been institutionalized in the first year of life and three-fourths of these children had been admitted before six months of age. The majority of these children had Down's Syndrome; and, for the most part, their mothers were more highly educated than mothers of children who were institutionalized later. This report is not surprising in light of Olshansky and Sternfield's (1962) finding that pediatricians tended to favor early institutionalization. Further, on the basis of reports of parents who were planning to place their children, Andrew, Kime, Stedman, and Jaslow (1965) concluded that there were differences in institutionalizing patterns of families and that these appeared to be socio-economic-status-related. Specifically, middle-income people were advised more often and earlier by medical personnel than lower-income people who were counseled more frequently by social agencies.

Parents feel not only frustration and confusion in the wake of their crisis situation. Many find it difficult to accept the realities that their children

have special needs and, thus, attempt to search for more favorable outlooks from professional medical and clinical personnel (Begab, 1956; Farber, 1965). This reaction, frequently noted in the literature, has also been a common observation among parents of our young children who have participated in Psycho-Educational Clinical programs in the Division of Special Education and Rehabilitation at Syracuse University.

In all probability, several factors, including attitudes, feelings, and values, affect the ways in which families begin to cope with the problem of handicap. Some of these are related to internal determinants. Others undoubtedly are related to external factors such as community alternatives, support, and guidance. For example, Birenbaum (1971) has contended that the degree to which families are able to cope with problems of handicap is dependent on the extent that mothers are able to engage in normal-appearing or conventional behavior. It is easier to maintain such activities when a child is young, but becomes more difficult as he grows older. Birenbaum has cited the need for community-based programs so that, like the mother of a typical child, the mother of a disabled child can send him to school when he reaches

school age. Moreover, the author has contended that the frustration of these normal-appearing activities are directly related to the magnitude of family problems.

Such perceptions may have other consequences which affect development of an infant and the family constellation. For instance, Birenbaum has further suggested that mothers often tend to focus on emotional and social relationships with their children, to a neglect of more cognitive concerns. This reaction closely parallels some observations described by Jacobs (1969) and Ehlers (1966), where mothers concerned themselves more with their daily existence and activities than with long-term goals.

The concept of "the maintenance of normalcy" has also been considered in some other studies. Farber (1960), and later Fowles (1968) in a replication study, discussed the observation that a sister's adjustment often is dependent on the role that she assumes with her "retarded" sibling. If she is required to take on "caretaker" responsibility for the child, her adjustment tends to be poorer than it might have been had she continued in a sister role of play. This notion seems to be additionally supported by Mercer's (1966) contention that if family members are required to change their roles

radically, their acceptance of the disabled child will be less positive. Thus, to the degree that families are allowed to continue in established patterns, their adjustments may be enhanced. Again, we suspect that such familial patterns will also have an impact on the growth and development of the disabled child. Lombroso's (1970) study provided some evidence to support this notion. She found, for example, that families who were loving and able to cope, had children who functioned in ways that more closely approximated their chronological age expectancies than did children from less receptive families. Children in accepting homes were more affectionate, had more self-help skills, and were better toilet-trained than those in families where children were rejected. These issues of family acceptance and coping, despite preliminary evidence, however, are open to much question and greatly in need of further study.

Several studies of families of disabled children have, in addition, attempted to relate child acceptance and family adjustment to variables such as religion, socio-economic status, educational level, or numbers of non-handicapped children in the family. We think that such factors are of primary importance to the degree

that they shape expectations and role development of family members.

Few community-based options for schooling and day care considered, it is not surprising that parents of demonstrably disabled children have frequently turned to institutionalization in attempting to resolve their problems. In other words, when the child and his needs exceed family expectations and perceptions of normalcy to a degree where they are no longer able to cope (Carver & Carver, 1972; Lombroso, 1970; Mercer, 1966), the recourse of institutionalization may become the most viable option. In part, this tendency helps to explain the observation that children who have physical anomalies are more likely to be institutionalized at earlier points in their lives (Graliker, Koch, & Henderson, 1965; Olshansky & Shonfield, 1964).

Community-based programs which provide support for parents may help to alleviate some problems and pressures (Appell & Tisdall, 1968; Graliker, Koch, & Henderson, 1965; Lombroso, 1970; Saenger, 1960; Stone & Parnicky, 1966). At the same time, however, we need to recognize that provision of services alone probably will not be a sufficient condition to ensure that families will

be able to cope with problems and provide nurturing environments for their children. We believe that much will be dependent on the attitudes, values, feelings and perceptions of family members and the ways in that those factors are affected by carefully developed intervention strategies.

Summary, Conclusions, and Implications of the Research for the Head Start Handicapped Effort

In the above sections of this review we have attempted to discuss research studies and issues that we believe to be most pertinent to the Head Start handicapped effort. This review seems to permit the following conclusions:

1. There has been a marked increase in preschool and infant intervention studies over the past decade. These efforts have attempted to place greater emphasis on a more total family and community involvement.

2. Although the specific nature of the relationship between mother and child require much further study, most research efforts have acknowledged the central role of mother-child interaction in early growth and development.

3. While the relationship between behavior in early childhood and later performance is yet unclear, most developmental psychologists and educators have acknowledged the importance of the early years for later growth and development. Evidence from a few studies, however, has importantly suggested that initially

depriving experiences for young children may not be as irreversible as some other investigations have indicated.

4. Among intervention studies to date, there seems to be relative agreement that changes in behavior and performance of young children can be incremented. Problems arise, however, with the rather consistent evidence that such differences often are not demonstrably maintained after intervention programs are terminated.

5. There are relatively few systematic, in depth studies of the effects of home and school intervention on the development of multiply handicapped preschool children and their families. By far, the majority of studies have been concerned with lower-income children in whom probabilities for change appear to be more feasible.

6. Families of multiply disabled children often feel compelled to place their children in institutions because communities offer few viable alternatives for service.

7. Almost without exception, the preschool intervention programs that have been developed have excluded multiply handicapped and demonstrably disabled children.

8. Preschool intervention programs have failed to demonstrate the overwhelming success of one methodology or teaching technique versus another. Several studies, however, have noted the key importance of teacher attitudes for changing children.

In closing, these conclusions seem to lead to the following implications for further development of the Head Start handicapped effort.

1. Head Start programs ought to seek to establish closer relationships with public schools and community agencies providing special services so that there is continuity in programming for handicapped children over extended periods of time.

2. Head Start programs probably need to be extended downward in terms of providing services for handicapped children and their families at much earlier ages.

3. A major component of Head Start programming should include providing services to young handicapped children and their families in home settings. Such an approach might have an overall effect of strengthening parent involvement in Head Start, and secondly, enhancing the possibilities for family carry-over of outside services.

4. The development of positive attitudes among teachers responsible for handicapped children probably is of greater importance to the in-service training of Head Start staffs than specific skills, technologies, or the use of special materials.

5. Pediatricians and other medical personnel who are usually involved with multiply handicapped children and their families very early need to be more informed about Head Start services for disabled children. An increased awareness of such persons might also alleviate problems of identification of handicapped children experienced by some programs.

6. Head Start programs probably need to extend their efforts to develop good, comprehensive services which would benefit all handicapped and typical children. One area especially stressed by preschool intervention studies is the development of language abilities among disadvantaged children. Our on-site visits to 52 Head Start programs over the past year seem to confirm the need for attention to this area.

7. The increasing emphasis on social and emotional behavior, motivation, and attitudes of disadvantaged children in recent intervention programs also deserves

special consideration in Head Start. Our observations of programs during the past year seem to indicate that teachers have a great deal of difficulty coping with the "behaviorally deviant" child. Such observations were no surprise in light of the body of research on child-related variables associated with the rejection of older retarded children in regular classes.

8. Finally, the observation that moderately and severely handicapped children have been notably excluded from most preschool intervention and research programs has some important implications for the further development of the handicapped effort in Head Start. It may well be that this observation reflects not only the attitudes of teachers and researchers who work with typical children but also the ideologies and philosophies of those involved with handicapped children. As Head Start programs now enter a second year of striving to provide better services for children with special needs, staffs--in hiring new personnel and conducting training programs--must guard against a temptation to place increasing responsibilities in the hands of special educators alone.

We have a good deal of evidence from our field visits in another phase of this evaluation study which suggests that most teachers of programs we visited have always worked with children who have had problems--granted to a mild degree. Most importantly, however, they have not separated these children from the normal course of daily activities. Such circumstances have been less evident in the educational experiences of older disabled children--in part as a result of the resistance of regular class teachers, but also because of the isolation of special education personnel. It would indeed be an unfortunate turn of events if the "specialness" of education and service delivery for handicapped children in Head Start were now over emphasized as a result of perceived requirements of the Congressional mandate. In fact, one pressing need of current Head Start teachers, in the face of the handicapped legislation, is assistance with the development of a realistic, manageable pedagogy for integrated preschool programs that might be beneficial to all children--irrespective of their potential talents or impairments.

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